Problem A: Skewness

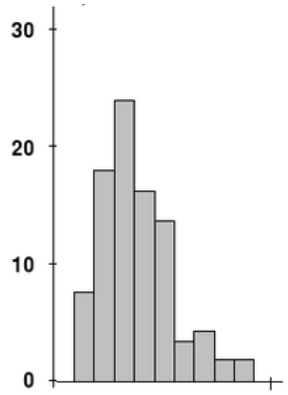

Figure 1

S*kewness* is a measure of the asymmetry of the probability distribution of a real-valued random variable. The skewness value of a dataset can be positive, negative, or zero. (It could also be undefined, but we ignore that option here.)

The skewness of a random variable X is the third standardized moment, denoted γ1 and defined as

$$\gamma_1 = \mathrm{E}\left[\left(\frac{X-\mu}{\sigma}\right)^3\right] = \frac{\mu_3}{\sigma^3} = \frac{\mathrm{E}\left[(X-\mu)^3\right]}{(\mathrm{E}\left[(X-\mu)^2\right])^{3/2}} = \frac{\kappa_3}{\kappa_2^{3/2}}$$

where μ3 is the third moment about the mean μ, σ is the standard deviation, and E is the expectation operator. The last equality expresses skewness in terms of the ratio of the third cumulant κ3 and the 1.5th power of the second cumulant κ2. This is analogous to the definition of kurtosis as the fourth cumulant normalized by the square of the second cumulant.

Visually, a *positive skew* will have a longer right tail; the mass of the distribution is concentrated on the left of the dataset, and it has relatively few high values. This is the case for Figure 1 above. A *negative skew*, the left tail is longer; the mass of the distribution is concentrated on the right of the dataset, and it has relatively few low values.

A commonly taught rule of thumb for determining the skewness of a dataset is based on the difference between the *mean* and the *median* of that dataset. The mean is the average of the values in the data set, and the median is the numerical value separating the higher half of a data set from the lower half. The median of a dataset is the middle value when the data is sorted (or the *mean* of the two middle values if the dataset has an even number of values). If the mean is greater than the median, then it has positive skew. If the mean is less than the median, then it has negative skew. If they are equal, then it has zero skew.

Although this rule of thumb fails much of the time, we are going to go with it. Given datasets, calculated their skewness.

Details of the Input

Each case will appear on a single line and begin with a non-negative integer n < 1000. A value of n = 0 indicates the end of input and should not be processed. The input line will then contain n integer values representing the data set V, with -10,000 <= V_i <= 10,000.

Details of the Output

For each case, output `Positive`, `Negative`, or `Zero` depending on the skewness of the data set.

Sample Input

```
3 8 2 16
0
```

Sample Output

```
Positive
```